

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Sean PHILPOTT et al.
Serial No. : Divisional of U.S. Application Serial No. 09/963,064
Filed : Herewith
Title : ANALYSIS OF HIV-1 CORECEPTOR USE IN THE CLINICAL CARE OF HIV-1 INFECTED PATIENTS
Group Art Unit : 1648
Examiner : J. Jeffrey Stucker

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New York, NY 10151

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Sir:

The Examiner's attention is invited to the following documents which are set forth in the accompanying form PTO-1449. Since these documents were forwarded to or cited by the Examiner in the predecessor applications and a copy of each of these documents should be in the

predecessor application files, no additional copy is being forwarded with this Information Disclosure Statement.

This Information Disclosure Statement is not a representation that the cited documents considered most pertinent, or that a search has been undertaken, or that any of the cited documents are indeed prior art. The Examiner is invited to undertake an independent search.

Applicants respectfully request that the Examiner consider and make of record the cited documents and that a copy of Form PTO-1449, initialed by the Examiner be returned to applicants' attorneys.

Respectfully submitted,

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				454311-2220.2	To Be Assigned		
				APPLICANT			
				Sean PHILPOTT et al.			
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U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	6,107,019	08/00	Allaway et al.			
	AB	5,994,515	11/99	Hoxie			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
	AC	WO 99 14378A	03/25/99	WIPO			YES
	AD	WO 00/65356	11/2/00	WIPO			NO
	AE	99/67429	12/99	WIPO			
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AF		Philpott S. et al. "Preferential suppression of CXCR4-specific strains of HIV-1 by antiviral therapy." J. Clin. Invest., vol. 107(4), February 2001, page 431-438.				
	AG		Moore JP. Et al. "Co-receptors for HIV-1 entry." Cur. Opin. Immunol., vol. 9, 1997, pgs 551-562.				
	AH		Callaway DS. Et al. "Virus phenotype switching and disease progression in HIV-1 infection." Proc. R. Soc. Lond., vol. 266, 1999, pages 2523-2530				
	AI		Wodarz D. et al. "Defining CTL-induced pathology: implications for HIV." Virology, vol. 274, August 2000, pgs 94-104.				
	AJ		Clerici et al. (2000) "Different immunologic profiles characterize HIV infection in highly active antiretroviral therapy-treated and antiretroviral-naïve patients with undetectable viraemia. The Master Group".AIDS 14(2): 109-116.				
	AK		Conner et al. "Change in coreceptor use correlates with disease progression in HIV-1-infected individuals" J. Exp. Med. vol. 185(4), February 17, 1997, pgs 621-628				
	AL		Bjorndal et al. "Coreceptor usage of primary human immunodeficiency virus type I isolates varies according to biological phenotype" Journal of Virology, Oct. 1997, pgs 7478-7487.				
	AM		Burger and Weiser, (1997) "Biology of HIV-1 in women and men" Obstetrics and Gynecology Clinics of North America, vol. 24, no. 4, pgs 731-742				
	AN		Pierson et al. (2000) "Characterization of chemokine receptor utilization of viruses in the latent reservoir for human immunodeficiency virus type 1". J. Virol. 74(17):7824-33				
	AO		Mosier (2000) "Virus and target cell evolution in human immunodeficiency virus type 1 infection", Immunologic Research, vol. 21, no. 2-3, pages 253-258				
	AP		Verrier et al. (1999) "Role of the HIV type 1 glycoprotein 120 V3 loop in determining coreceptor usage" AIDS Research and Human Retroviruses, vol. 15, Number 9, 1999, pages 731-743.				
	AQ		Chan et al. (1999) "V3 recombinants indicate a central role for CCR5 as a coreceptor in tissue infection by human immunodeficiency virus type 1" Journal of Virology, March 1999, pages 2350-2358.				
EXAMINER				DATE CONSIDERED			
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							YES NO
	AC						
	AD						
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AE		Anderson et al. (1998) "Early reduction of immune activation in lymphoid tissue following highly active HIV therapy" AIDS 12:F123-9				
	AF		Berger et al. (1999) "Chemokine receptors as HIV-1- coreceptors: roles in viral entry, tropism, and disease." Annu. Rev. Immunol. 17:657-700				
	AG		Berkowitz et al. (2000) "Casual relationships between HIV-1 coreceptor utilization, tropism, and pathogenesis in human thymus." J. AIDS Hum. Retro. 16(11):1039-45				
	AH		Cannmark N. (1999) "Human immunodeficiency virus type 1 entry and chemokine receptors: a new therapeutic target." Antivir. Chem. Chemother. 10(2):53-62				
	AI		Cecilia et al. (2000) "Absence of coreceptor switch with disease progression in human immunodeficiency virus infections in India" Virology 271(2):253-8				
	AJ		Dreyer et al. (1999) "Primary isolate neutralization by HIV type 1-infected patient sera in the era of highly active antiretroviral therapy." AIDS Res. Hum. Retrovir 15(17):1563-1571				
	AK		Equils et al. (2000) "Recovery of replication-competent virus from CD4 T cell reservoirs and change in coreceptor use in human immunodeficiency virus type 1-infected children responding to highly active antiretroviral therapy." J. Inf. Dis. 182:751-757				
	AL		Este et al. (1999) "Shift of clinical human immunodeficiency virus type 1 isolates from X4 to R5 and prevention of emergence of the syncytium-inducing phenotype by blockade of CXCR4". J. Virol. 73:5577-85				
	AM		Fang et al. (1996) "Molecular cloning of full-length HIV-1 genomes directly from plasma viral RNA". J. Acquir. Immune Defic. Syndr. Hum. Retrovirol. 12(4):352-7				
	AN		Giovannetti et al. (1999) "CCR5 and CXCR4 chemokine receptor expression and beta-chemokine production during early T cell repopulation induced by highly active anti-retroviral therapy". Clin. Exp. Immunol. 118(1):87-94				
	AO		Glushakova et al. (2000) "Preferential coreceptor utilization and cytopathicity by dual-topic HIV-1 in human lymphoid tissue ex vivo". J. Clin. Invest. 104:R7-R11				
	AP		Hotkamp et al. (2000) "Unexpected coreceptor usage of primary human immunodeficiency virus type 1 isolates from viremic patients under highly active antiretroviral therapy." J. Inf. Dis. 181(2):513-21				
	AQ		Kokkotou et al. (2000) "In vitro correlates of HIV-2-mediated HIV-1 protection." Proc. Natl. Acad. Sci. USA 97(12):6797-8002				
	AR		Kusunoki et al. (1999) "Antisense oligodeoxynucleotide complementary to CXCR4 mRNA block replication of HIV-1 in COS cells." Nucleosides Nucleotides 18(6-7):1705-8				
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	AC						
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AE		Lee et al. (1999) "Quantification of CD4, CCR5, and CXCR4 levels on lymphocyte subsets, dendritic cells, and differentially conditioned monocyte-derived macrophages" Proc. Natl. Acad. Sci. USA 96(9):5215-20				
	AF		Lew et al. (1998) "Determinations of levels of human immunodeficiency virus type 1 RNA in plasma: reassessment of parameters affecting assay outcome. TUBE Meeting Workshop Attendees. Technology Utilization for HIV-1 Blood Evaluation and Standardization in Pediatrics." J. Clin. Microbiology (36)6:1471-9				
	AG		Martinson et al. (1999) "Persistent alterations in T-cell repertoire, cytokine and chemokine receptor gene expression after 1 year of highly active antiretroviral therapy." AIDS. 13(2):185-94				
	AH		Michael et al. (1999) "Viral phenotype and CCR5 genotype", Nat. Med. 5(12):1330				
	AI		Philpott et al. (1999) "Antiviral therapy may preferentially eliminate CXCR4-specific strains of HIV-1" Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) Moscone Center San Francisco, CA, USA Sept. 26-29, 1999 Abstract 1836 Pg. 513				
	AJ		Samson et al. (1996) "Resistance to HIV-1 infection in Caucasian individuals bearing mutant alleles of the CCR-5 chemokine receptor gene", Nature 382:722-5				
	AK		Schramm et al. (2000) "Viral entry through CXCR4 is a pathogenic factor and therapeutic target in human immunodeficiency virus type 1 disease", J. Virol. 74(1):184-92				
	AL		Shankarappa et al. (1999) "Consistent viral evolutionary changes associated with the progression of human immunodeficiency virus type 1 infection", J. Virol. 73(12):10489-502				
	AM		Trkola et al. (1999) "A cell line-based neutralization assay for primary human immunodeficiency virus type 1 isolates that use either the CCR5 or the CXCR4 coreceptor", J. Virol. 73(11):8966-8974				
	AN		Vicenzi et al. (1999) "Envelope-dependent restriction of human immunodeficiency virus type 1 spreading in CD8(+) T lymphocytes: R5 but not X4 viruses replicate in the absence of T-cell receptor restimulation", J. Virol. 73(9):7515-23				
	AO		Wang et al. (2000) "Molecular and biological interactions between two HIV-1 strains from a coinfected patient reveal the first evidence in favor of viral synergism" Virology 274(1):105-119				
	AP		Zhang et al. (1999) "Will multiple coreceptors need to be targeted by inhibitors of human immunodeficiency virus type 1 entry", J. Virol. 73(4):3443-8				
	AQ		Penn et al., "CXCR4 utilization is sufficient to trigger CD4+ T cell depletion in HIV-1-infected human lymphoid tissue", Proceedings of the National Academy of Sciences of the United States of America, Vol. 96, No. 2(19 Jan. 1999), pp. 663-8				
			Overbaugh et al., "Distinct but related human immunodeficiency virus type 1 variant populations in genital secretions and blood", AIDS Research and Human Retroviruses, Vol. 12, NO. 2(20 Jan. 1996), pp. 107-15. ABSTRACT ONLY				
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